

## REMARKS

Claims 1-6 and 8-16 are pending in this Application. Claims 1, 11 and 16 are independent claims and have been amended by this Amendment.

The Office Action dated July 8, 2008 is a non-final Office Action and is responsive to the Amendment filed on April 15, 2008. The Office Action withdraws the previous rejections of the claims, but all of the claims presented in the Amendment are rejected in the Office Action under new grounds of rejection. There are rejections of claims pursuant to 35 USC §112 and also rejections of claims pursuant to 35 USC § 103.

### Claim Rejections - 35 USC § 112

The grounds for the rejections of claims 1-6 and 8-16 pursuant to 35 USC § 112 are set forth in parts 4-8 on pages 2-3 of the Office Action. Specifically, claims 1, 11 and 16 were rejected on the grounds that there was insufficient antecedent basis for the limitation "... the gradient of the expectation of the square... said transmission..." (underlining in original) in lines 7-8 of the claim 1, lines 8-9 of claim 11, and lines 8-9 of claim 16. Claim 16 was additionally rejected on the grounds that there was insufficient antecedent basis for the limitation "... an output signal of said signal processing..." (underlining in original) in lines 3-4.

Applicants have amended claims 1, 11 and 16 in this Amendment to overcome the rejections. Specifically, the underlined language has been corrected and the independent claims 1, 11 and 16 have been amended to recite "... a gradient of an expectation of a square ... a transmission." Claim 16 has been further amended to recite "... an output signal of a signal processing..." It is therefore respectfully requested that the rejection be withdrawn in view of the amendments.

**Claim Rejections - 35 USC § 103**

The references and rationale for the grounds of rejections of claims 1, 2, 4-6, 8 and 11-16 pursuant to 35 USC § 103(a) are set forth in part 10 on pages 3-6 of the Office Action.

Specifically, the claims are rejected based on U.S. Patent No. 6,313,703 B1 issued to Wright et al. in view of U.S. Patent No. 6,834,109 B1 issued to Pare, Jr. et al. The rationale for the combination of references in the rejection is that it would have been obvious to use the teachings of Pare Jr. in the Wright system "to calculate the approximate gradient of based on based on expected value of squared error signal in order to compensate non linearities and interferences as cross talk interference in the communication system by determining and estimation of interference and non linearities that may be cause by external sources or are due to system internal components for getting optimal and predictable performance." The rejection does not indicate the source or authority for the stated rationale. Applicant respectfully traverses the rejection on the grounds that it fails to establish a *prima facie* case that the applied references suggest a method having each and every one of the combination of features recited in claims 1-6 and 8-10 or an apparatus having each and every one of the combination of features recited in claims 11-16.

As a first example, independent claim 1 recites the feature of "calculating an approximation of a gradient of an expectation of a square of said difference based on said obtained difference and an approximation of a transmission characteristic". Independent claims 11 and 16 recite substantially the same feature.

The rejection asserts that Wright discloses calculating an approximation of a gradient of expectation of said difference based on said obtained difference and an approximation of a transmission characteristic, at col. 21, lines 15-20; equations 22-24 in column 32; col. 23, lines 60-67; col. 19, lines 38-44; and columns 53-54, step 2, of the Wright patent. Applicant concurs that Wright mentions that the gradients of amplitude, phase and frequency trajectories are

continuous and bandlimited (see, for example, col. 21, lines 15-18). However, Wright does not mention calculating an approximation of a gradient of expectation of the obtained difference.

The rejection apparently acknowledges that Wright does not entirely disclose the recited features of "calculating an approximation of a gradient of an expectation of a square of said difference based on said obtained difference and an approximation of a transmission characteristic". It asserts that Pare, Jr discloses a method for mitigation of disturbers in communication system by "calculating an approximation of a gradient of expectation of a square of said difference based on said obtained difference and an approximation of a transmission characteristic (figs. 20-22; col. 28, line 60, to col. 29, line 40). However, Pare, Jr only discusses the use of a least-mean-square process, and does not disclose the use of an approximation of a gradient of expectation of a square of the difference based on the obtained difference and an approximation of a transmission characteristic.

It appears that the rejection merely identifies the portion of the claimed invention found lacking in Wright and locates that portion of the claimed invention in Pare, Jr. The rejection refers to specific passages in Pare, Jr. but these passages merely relate to the least-mean-square process. The rejection does not consider the context of the passages. Notwithstanding the reference to the teachings of Pare, Jr, the rejection does not consider Pare, Jr in its entirety. See MPEP §2141.02, Part VI, entitled "Prior Art Must be Considered in its Entirety, including disclosures that teach away from the claims." A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). See, for example, the discussion at col. 2, lines 9-15, of Pare, Jr., as an indication of what the reference fairly suggests when it is considered as a whole. The cited portion at col. 28, line 60, to col. 29, line 40 of Pare, Jr., cannot be considered as a teaching when the reference is considered in its entirety.

As a second example, claim 1 recites the feature that "said transmission characteristic of said signal processing circuitry is approximated as a delay function." However, the rejection

apparently regards the adaptive control processing and compensation estimator (ACPCE) 28 described at col. 22, lines 50-62, and shown in Fig. 14 of Wright having a delay block or function as specifically shown in Fig. 16 as meeting such a feature. Such a reading misinterprets this feature as being that transmission is based on a delay function or a delay block. The approximation circuit 73 at page 8 of the specification implements a filter characteristic as a delay block or function. The ACPCE 28 in Wright is not the same as or equivalent to this approximation circuit or to the recited feature. It has signal values filled in a memory to be held. In other words, they are delayed before further processing. See, for example, col. 22, lines 48-62. The Wright et al patent does not anticipate the amended independent claims even though the approximation therein may be based on a delay function.

The references and rationale for the grounds of rejections of dependent claims 3, 9 and 10 pursuant to 35 USC § 103(a) are set forth in part 11 on pages 7-9 of the Office Action. Specifically, the rejection additionally relies upon an additional reference entitled "JOINT GRADIENT-BASED TIME DELAY ESTIMATION AND ADAPTIVE FILTERING" by Daniel et al., as disclosing an adaptive filter using gradient based time delay estimation, wherein the gradient, i.e. the function for updating the adaptation coefficients, is in the form of a differential equation (page 3167, equations 24-26, 38-39). While a rationale is set forth for the combination including the additional Daniel reference, there is no source or authority set forth to support the rationale. Applicant therefore respectfully submits that the rejection fails to establish a *prima facie* case that the invention would have been obvious to one of ordinary skill in the art at the time of the invention.

Applicant hereby petitions for an extension of time for the filing of this Amendment. The Commissioner is hereby authorized to charge the extension of time fees, and any other fees which may be required for the consideration of this Amendment, or to otherwise avoid abandonment of this application, to Deposit Account No. 13-0760 (06173.1023US).

Respectfully Submitted,



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Date: January 8, 2009